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ABSTRACT

A study conducted in 1988 assessed the effectiveness of the multigrade system in providing a primary education at four pilot schools in sparsely populated, rural areas of Zambia. In an attempt to alleviate the problems of financial strain and low enrollment in rural schools, this system combines two or more grade levels into one class taught by one teacher simultaneously. Four teaching methods were devised for presenting subjects proficiently to students at different grade levels. To assess the effectiveness of the multigrade system, a study was conducted to collect information about the schools, the teachers, the students, and the communities involved in the program. Results of the study indicate that the system provided an opportunity for rural children to complete a full primary education at a low cost to the child's family and the government. The system helped schools gain increased community support. Access to education leads to increased student enrollment and reduced outmigration of the population in the school communities. Based on the secondary school selection examination, all four pilot schools were successful in promoting pupils to grade 8. The impact of the program on student basic academic skills and academic achievement was not addressed in the study, and further research in this area is recommended. Inadequate education supplies was a problem in the pilot schools due to geographic remoteness. Because of the positive experiences, the Ministry of General Education of Zambia has introduced the multigrade system in 200 schools. (LP)

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MEETING THE EDUCATIONAL NEEDS OF CHILDREN IN SPARSELY POPULATED AREAS THROUGH MULTIGRADE TEACHING: AN EXPERIENCE FROM ZAMBIA.

A SUMMARY OF A RESEARCH REPORT.

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INTRODUCTION

Like all other countries with similar socio-economic experiences, Zambia is facing major and complex problems in her educational system. The problem are multifaceted and they include among others? how to contain the escalating costs bf education? how to raise the falling quality of education? how to accommodate the increasing school age children? how to set priorities among different levels and types of education? how to strike a balance between the formal and non-formal educational provision in he midst of rising illiteracy levels among the children? how to control for the differences in the demand for education among various regions, between the urban and rural areas and among different socio-economic groups? These problems are not new they have definitely been at the centre of policy decisions, research and scholarly debate in education for a long time.[1] In Zambia, these problems are significant because they have ushered in an educational reform with a new dimension. The focus of this reform is on how to improve both the internal and external efficiency[2] of the educational system through changing or modifying existing education policies and adapting selected vailable education practices to local conditions.

Several dimensions of the current educational reforms taking place in Zambia can be cited. First, a major pre-occupation of the education authorities in recent years has been with measures to reduce the burden of the Unit Costs of education on the Government. Student loans, user charges, double and triple sessions, expanded participation in educational provision are but a few such measures the authorities have devised to reduce this burden.[3] Another aspect of the present educational reform is policy experimentation in selected educational innovations. Among the innovations currently in practice in the Zambian educational system are: child to child, basic schools, multigrade teaching, Tight Time - Tabling, Self Help Action Plan (SHAPE), special study groups, production units to mention but a few. One innovation whose goal was to enable schools in remote sparsely populated areas provide an entire primary education cycle at low cost is the multigrade system of school organisation. The multigrade system was established on pilot basis in four schools in 1985. These schools were Kalombe, Katetaula, Mwape and Liteta all situated in sparsely populated areas of the Central Province.

The criteria for selecting the pilot schools for the experimental project in multigrade teaching was based on the fact that:

(i) the schools were in the remotest part of the country;

(ii) the child population in the catchment areas of the schools was so low that the government could not upgrade these schools from elementary (Grades 1-4 only) to full primary levels (i.e. Grades 1-7);

(iii) these schools had experienced problems of neglect from their surrounding communities because of their unacceptable terminal point (i.e. Grade 4);

(iv) because of the remoteness of the areas in which these schools were located, qualified teachers tended to resent working in them;

(v) children growing in the areas in which the schools were located had been among the least advantaged educationally ever since formal education was established in the country.

The communities around these schools are generally very poor. The major economic pre-occupation is subsistence farming. With the exception of Kalombe, the other three schools are located in a valley that is surrounded by inaccessible escarpments. The difficult of reaching these schools by road is evidenced by the fact that at the time of converting them into multigrade schools in 1985, educational materials like books and desks, including the teachers and their families had to be transported by a helicopter.

The multigrade system that was established on pilot basis in 1985 in the four schools was evaluated by the writer in 1988 under a research contract support of SIDA and the Ministry of General Education of the Republic of Zambia. This paper presents the general summary of the findings of the study.[4]

BACKGROUND TO THE STUDY

The goal of the Zambian Government in Education is to provide nine years of basic education for every child beginning with seven years universal primary education. However, the problems at basic education currently confronting Zambia are:

(i) only four out of five of primary school age children are actually enrolled in Grades I to VII;

(ii) many children who are old enough to enter Grade I do not have the opportunity to enroll because there are not enough places;

(iii) substantial numbers of children enrolled in Grade I in rural schools have no opportunity to complete Grade VII;

(iv) in some rural districts, four out of ten pupils have to leave school at Grade IV because there are either no places or not sufficient of them at Grade V.[5] To solve these problems, the country's Educational Reforms stipulate that far reaching changes will have to be undertaken. Such changes will not only be in the structure and the accompanying nomenclature, nor will it be in the improvement of acquisitional patterns. Rather, the changes that would receive the greatest attention will be in the content, the methods and the organisation of the system of education.

According to Zambia's Educational Reforms, implementing the goal of nine years basic education for all children will necessitate changes in the direction, in the depth and, in the breadth of the system. Such changes it is argued, will have to take full cognizance of the various factors which are the basis of the interplay between the educational system and the society. This position calls for creativity and innovativeness leading to tangible results in the solution of the problems confronting the education system. It is in this vain that the multigrade system was considered a significant innovation to try within the educational system.[6] Some of the aspects of the Zambian society which justified the introduction of the multigrade system are:

(i) certain areas in the country were historically neglected in the educational provision;[7]

(ii) the sparsity of population in some areas within the country make the provision of full primary education under conventional means costly and difficult;

(iii) some communities in the rural areas are too poor to stand on their own in matters of meeting educational services for their children;

(iv) most economically deprived areas which are at the same time sparsely populated have been predominantly served by incomplete schools. Incomplete schools cover only the first four years of the seven year primary cycle. There were 875 such schools throughout the country in 1985.[8]

The upgrading of the incomplete schools to full primary schools that are under enrolled pose problems in the generation and allocation of resources on the government. One of the problems is that upgrading such schools entail raising the number of teachers from two to five. Since the class sizes are two small such teachers would tend to be underutilized and hence uneconomical. The rural communities concerned on the other hand are too small and too impoverished to provide the self-help inputs that are needed for the physical development of an incomplete school. The allocation of costly teaching staff to schools which cannot attract a sufficiently large number of students is an uneconomic use of scarce and costly resources. The solution to these problems consists in increasing the number of students within a teaching group so that it becomes economically viable. This objective could be attained by transporting students to centres where they would constitute teaching groups of adequate size, but this solution is socially undesirable because it entails depriving some communities of a principle focus and symbol of community cohesion, the village schools. Moreover, given the poor infrastructure in Zambia and the difficult in obtaining and maintaining transport this would be an impracticable solution. The solution of providing boarding facilities at centrally established complete schools would encounter similar difficulties.

The objective of increasing the number of students within a teaching group can also be achieved by organisational measures. one such

measure is to postpone the admission of students until their number is large enough to justify their constituting a class. A second is to collapse together one or more cohorts after they have entered school, so that they constitute a classgroup of acceptable size. Both of these solutions have been adopted in Zambia. In about 50 schools there is a system of bennial intake, where students are enrolled in Grade I only every second year. In such schools, the age-range for admission is necessarily spread over two years (7 and 8 year olds). But if these schools can admit all children of the relevant ages in the years when admission does take place then the age-range occurring within classes would very likely be smaller than that obtained in schools serving larger populations, especially in the urban areas. But information on this point awaits empirical evidence. A second solution that Zambia adopted to address the problem of small enrolments in rural schools is the multigrade system of teaching.

MULTIGRADE TEACHING: THE CONCEPT AND ITS OPERATIONAL DIMENSIONS

Multigrade is understood to be a system of teaching which involves two or more grades that are taught by one teacher in one room at the same time. This system of teaching is considered applicable in those schools where a combination of two or more grades in one classroom will not go beyond the Government of the Republic of Zambia's officially approved class unit of forty pupils. Multigrade teaching can therefore only be applied in schools which have very low enrolments. Once enrolments increase to proportions where combining two or more grades in one classroom results in more students than the official class size, multigrade as a practice ceases.

The concept of multigrade teaching is synonymous with ability grouping in mono grade schools. The only difference however, is that a multigrade class has at least three variables operating at one time. These variables are: different ages, different abilities and different grades. The method is therefore, heavily dependent on individualised instruction and pupil activities. In order for a multigrade class to work effectively, the teacher must command organizing ability skills. Some of the skills that a teacher need to develop in the pupils are good working habits, good study techniques and the development of independence and responsibility.

In the multigrade school, the teacher is defined as an organiser of work and supervisor. The teacher's designed work is either for individual self education or group-work. The success of multigrade teaching is dependent on such variables as: the age of the pupils, mental maturity of the pupils, structure and sizes of classes, rooms, equipment, access to teaching materials, co-operation between grades, character of the subject and the interest and aptitude of the teacher.

The teacher's ability to plan efficiently is critical to the success of multigrade teaching. What makes careful planning important in the Multigrade system is that unlike a monograde teacher, a Multigrade teacher has to make two year or three year plans in any single year, term week, day or period. At every stage of the planning process Multigrade teachers have to recognise that the objective is to enable pupils acquire knowledge and skills independently.

There are four teaching methods which have been devised for use in Multigrade classes in Zambia. These methods (also known as time-table options) are: The Common Timetable Option; The Subject Grouping Option; The Integrated Day Option and the Subject Staggering Option.

The Common Timetable Option: This method presents the same subject (e.g. Mathematics) to all the grades in a Multigrade class in a given timetable period. The subject is presented to each grade group according to the prescribed grade level and the work programme designed by the teacher.

The Subject Staggering Option: The determining factor in this method is the amount of teacher-pupil interaction required. The principle is that subjects (or subject topic) which require more teacher-pupil interaction are put together with the subjects that require little or no teacher-pupil interaction. A good example is the staggering of a subject like English with creative arts. While one grade is working on various creative arts another grade would be doing English. The former, in this case, would need less teacher-pupil interaction than the latter.

Subject Grouping Option: Under this method certain subjects are presented by the teacher to all grades in a Multigrade class at the same time. The basic education curriculum in Zambia has subjects that easily lend themselves to be taught to vertical groups. Such subjects are Music, Art, Social Studies and Religious Education.

Integrated Day Option: This is a non timetable approach. The pupil is considered to be an independent learner who is at liberty to make a choice as to what subject (or what topic of the subject) to learn and when to learn it. The method is laizer faire in approach and it involves careful arrangements and programming of both the pupils' and the teachers' work by the class teacher. It is however, rarely practiced in schools.

The education authorities in Zambia have given careful thought to Multigrade teaching and they have the following positive views about the system:

1) The introduction of Multigrade teaching in sparsely populated areas is taken to be the surest means of extending the seven years basic education to all children.

2) Through Multigrade teaching nongraded schools (i.e. incomplete schools) will be graded with minimum cost to the Government. This is considered important under the current fiscal constraints.[10]

3) Multigrade teaching will help to stimulate a favourable relationship between the school and the community especially as the latter experiences the opening of upper primary education opportunities to their children. (i.e. grades 1-7)

4) The system will shorten the distance currently being covered by children in order to receive upper primary Level education (i.e. grades 5 to 7).

5) Multigrade teaching will help to foster in the pupils attitudes of greater independence and self reliance at school and learning generally.

6) Multigrade teaching helps teachers to monitor the development of each individual child since the principle is more on child centred approach to teaching.

7) The system helps teachers to have a broader overview of the curriculum.

8) Teachers will develop more effective discipline measures that are based on an understanding of each individual child.

9) Multigrade teaching develops a communal approach to learning as different grades come together under one roof.

The positive attitudes towards Multigrade teaching notwithstanding, the education authorities in Zambia have certain concerns relating to the effective operation of the system. One major worry is that Multigrade teaching demand a lot of comprehensive assessment of the records of each pupil's progress and this takes a lot of the teacher's time. Secondly,the system is demanding on the teacher in terms of material preparation and time. Not all teachers might be good at solving organisational problems. Third that ineffective teachers might contribute greatly to poor learning and the education of pupils. The operation of the multigrade system therefore needed to be evaluated in order to provide a feedback into the policy and planning process.

AIMS OF THE STUDY

The principle aim of the study was to determine how successful the introduction and operation of the Multigrade system had been in meeting the objectives established for it. The principle rationale for the commencement of the system was that it should enable the schools serving a small population to provide at reasonable cost the full range of primary level education for the children in the vicinity of the school. Hence it was necessary to determine the extent to which Multigrade schools had succeeded in catering for the educational needs of those of school-going age in their catchment areas and what it was costing to do so.

The information derived in this way would indicate the extent to which a Multigrade teaching system might help universalise educational access in a particular area and the cost of such universalisation. But it would lead to no more than limited understanding of the strictly educational aspects of the system and of the potential impact that the introduction of the system might have had on the socio-cultural environment. To capture these aspects the study considered certain pedagogic and educational dimensions of Multigrade schools and assessed the relationship of the system to the local community. In specific terms, therefore, the study addressed itself to the following issues:

1) The extent to which the multigrade system had enabled all children in a school catchment area have access to the full primary level programme.

2) The impact of multigrade teaching on the participation and performance of girls.

3) The perceptions of multigrade teaching held by participants, parents of students and the wider local community.

4) The impact that the introduction of this system has had on the attitudes and mores of the local community.

5) The impact of multigrade teaching on the educational achievement of students.

6) The impact of this form of teaching in promoting independent and self-directed habits of study.

7) The role of the teacher and the nature of his pedagogical activities in a multigrade school.

8) The costs of making this form of educational provision.

METHODOLOGY

The study required the analysis of an extensive range of information about the schools, the teachers, the students and the community. Information had to be sought on all that led up to the introduction of the multigrade system, with particular attention to the special training provided for participating teachers. Because of the comprehensive nature of the study it was necessary to gather the information that was required through a variety of techniques and data-gathering instruments. Some of the techniques and data-gathering instruments included in the following:

1) Questionnaires for completion by teachers, students and personnel involved in the training activities.

2) Partly structured interviews with parents, members of the local community.

3) Interviews with headteachers and participating teachers.

4) Observations of multigrade teaching in action.

5) Comprehensive review of the physical resources at each school.

6) Miniature population census of the catchment areas of each school.

7) Interviews with personnel in the Planning Unit at the Ministry of General Education Headquarters, and in the Regional and District Education Offices.

8) Examination of all relevant school records and gathering as much detailed information as possible regarding the running costs of the schools and the resource received.

The target group for this study was the four pilot schools where multigrade teaching was introduced in January, 1985. These schools are: Kalombe, Katetaula, Mwape and Liteta in Mkushi District.

RESULTS OF THE STUDY

1. ACCESS TO FULL PRIMARY EDUCATION

Up until 1987, children in the catchment areas of Kalombe, Katetaula, Mwape and Liteta had no opportunity to complete a full primary education of seven years. From their establishment to 1985 these schools were known as feeder schools. The term feeder school meant that the highest level that children going to these schools could attain was Grade four. Those that aspired to complete the rest of primary school had to find places elsewhere after satisfying the Grade four leaving examination which was locally organised by the teachers. With the exception of Kalombe, the other three schools were established as feeder schools to Chinombe Mission in Luano Valley. That condition was grave. What it implied was that for a child from Mwape Primary School to proceed to upper primary level he/she had to travel a distance of seventy-five kilometres to Chinombe Mission. Children from Liteta had to travel a distance of sixty-four kilometres and those from Katetaula had to cover fifteen kilometers. These distances had to be covered on foot in the midst of tsetse fly and wild animals.[11]

Prior to 1985, therefore, children within the vicinity of these schools did not only have any opportunity for a full primary education but they did not see any incentive for going to school at all when Grade four was the terminal point. Most pupils, therefore, view Multigrade teaching as providing an opportunity for completing a full primary level education which their parents and grandparents never had before.

2. SCHOOL-COMMUNITY RELATIONSHIP

Before 1985, all the four schools had very poor relationships with their surrounding communities. Most parents considered these schools dead-ends because the four year elementary education that their children obtained from them were nowhere nearer to enabling them attain basic functional literacy. Most parents used to look elsewhere for the education of their children. The common tendence was to migrate to areas where parents could find full primary education for their children. The schools that were affected by migration were Kalombe and Liteta. By 1984, Kalombe primary school was only being served by four villages because most people had migrated elsewhere. At Liteta primary school, the rate at which migration took place in the surrounding areas resulted in the closure of the school from 1977 to 1978. The school had to be closed because only seven children could be raised for all the four grades. Such a number was considered not cost-effective to continue running the school.

Ever since the introduction of the multigrade system in these schools, the school-community relationship has improved greatly. The migration of people from these areas has drastically reduced. A good example is the Kalombe catchment area where three hundred families had moved back into the area between 1985 and 1988. Parents expressed the view that the provision of full primary education (i.e. Grades 1-7) has been a major attraction for settling back into the area. The most observable change in the school-community relationship is in the enthusiasm that the communities have developed in trying to assist in running the schools. At all these schools, parents are busy donating their own labour to

assist with the maintenance of school buildings and the construction of teacher's houses. The local chiefs have taken significant interest in ensuring that the schools are running smoothly. With the help of the Parent-Teachers' Associations, chiefs try to monitor the attrition rates in the schools. Parents that discourage their children from attending school because of the dictates of such traditions and customs like early marriages are counselled by the chiefs against such actions.[12] The multigrade system has brought positive change in the school-community relationship and this had resulted in a general improvement in student enrollments and school attendance. The Parent Teacher' Associations are very strong in these schools and their meetings are frequent.

3. STUDENT ENROLMENTS

One of the objectives of the multigrade system was to help in improving student enrolments in schools by arresting the migration of the population from the areas. The objective has to a large extent been achieved as illustrated in the table below.

Total Student Enrollment in the Multigrade Pilot Schools

School	1984	1986	% Increase Over the 1984 1984 Enrollment
Kalombe	81	127	151.9
Katetaula	74	85	52.7
Mwape	33	93	166.7
Liteta	57	76	29.8

The trend in pupil enrolments in these schools has been that of a general increase. The low rate of growth in student population at Liteta is attributable to the loss of faith in the school that emerged between 1977 and 1978 when the school was completely closed. On the other hand, the rate at which student population has grown at Kalombe threatens the continued existence of the Multigrade system at the school. Kalombe primary school is in fact on the verge of being converted into monograde

school because most grades can not be taught under the multigrade teaching arrangement. The education authorities are contented with these developments at the school because the Multigrade system has contributed to the objective of meeting full primary education for the children in these remote areas of the country.

4. STUDENT EDUCATIONAL ACHIEVEMENT

The cognitive achievement levels of students in the multigrade schools was not measured in this study. However, the general view among the Ministry of General Education authorities is that the students in these schools have much higher cognitive achievement levels because:

(1) Multigrade teaching embraces independent learning;

(2) Teachers are encouraged to adopt pupil centred approaches to teaching;

(3) It facilitates revision of materials covered in earlier grades and

(4) Multigrade teaching enhances more pupil to pupil interaction.

These factors are considered important in raising the cognitive achievement levels of the pupils. The cognitive achievement levels among students in Multigrade schools still awaits further research evidence.

The only measure of educational achievement adopted in this study was the performance of the students on the secondary school selection examinations. All the four multigrade pilot schools had their first Grade seven leavers in 1987.[13] In general, all schools managed to send pupils to Grade eight. From Liteta primary schools, two out of four pupils that wrote the competetive secondary selection examinations found places in Grade eight. As for Mwape primary school, four out of eight pupils that wrote the selection examination found places in Grade eight. Katetaula also had the same number admitted in secondary schools namely: four out of eight pupils that wrote the examinations. Kalombe primary school managed to send three pupils out of twenty-four to secondary schools. Further research in the area of the educational achievements of the products of the multigrade system is crucial. The current expectation among educationists in Zambia is that pupils taught under the multigrade system are better prepared for self learning after they left school. Additionally, it is contended that multigrade teaching contributes greatly to mastery of basic skills by individual pupils which have a lasting impact on literacy. Such views need to be validated empirically.

5. THE EXECUTION OF MULTIGRADE TEACHING BY TEACHERS

With the exception of Kalombe where both teachers had exposure to the multigrade teaching training programme, it is only the teachers in charge at the other schools who had been exposed to such training. An interesting development in the schools is that the teachers that had exposure to the multigrade training programme have effectively been able to teach the other teachers the basic techniques of multigrade teaching. All the teachers (and there are two at each school) are familiar with the multigrade approach and they have no difficulties in applying the methods. Teachers generally agree that the principle of independent learning which multigrade teaching attempts to promote is effective. While the teachers are able to teach most of the subjects through the multigrade approach, homecraft and practical activities are not being taught effectively. There are two reasons for this. First, there are no female teachers in these schools who can teach such homecraft skills like needlework or cookery.[14] Second, practical skills are not being taught because teachers do ot usually get enough time to do so. A further educational activity that is difficult to teach under the multigrade arrangement is oral language lessons in English.

Oral work is usually done in the lower grades. In Grade one most of the lessons in the first half of term one are in form of oral work. Teachers usually find it difficult to have a multigrade class involving Grade one classes in term one because of the noise that comes from oral work. Teachers circumvent the problem by adopting the subject staggering method.

From the teachers' standpoint, a major problem with multigrade is the non availability of educational materials. According to the teachers, multigrade teaching can best develop the spirit of independent learning in the pupils when there is a good supply of educational resources. The resources that are most necessary are different types of learning aids like pupils' textbooks, and pupils' exercise books. The availability of such resources help in better lesson planning and classroom organisation on the part of the teacher. Non availability of adequate educational materials was a common complaint among the teachers in the four pilot schools. The problem of lack of educational resources was to enlarge a management one.

6. MANAGEMENT OF THE MULTIGRADE PROGRAMME

The advantage that the multigrade system enjoys in Zambia is in the common understanding that all the education authorities have with respect to its objective. From the Headquarters, to the Region, and District levels a common understanding is that multigrade teaching is the most cost-effective means of providing seven years of basic education in the most sparsely populated areas. Under the decentralised system of educational management in Zambia, the multigrade system is considered by the district level officials to be a means that has enabled them to reassure the communities that their educational needs are being met.

Because of the optimism that surrounds the multigrade system, a lot of commitment is rendered to it at various levels. The Swedish International Development Agency (SIDA) donated educational supplies worth 209,000 kwacha to Mkushi District between 1984 and 1988 (or about 10,000 US dollars at current rates). These supplies include readers, exercise books, atlases, maps, teachers handbooks, and many others. The district is possibly one of the best stocked in educational supplies in the whole country.

However, a major problem that affects the multigrade schools is that they are the least to benefit from the educational materials. Because these schools are located in the remotest parts of the district, educational supplies do not usually reach them. When they do, such supplies arrive at the schools in small quantities and are usually mutilated. Schools within the vicinity of the district education offices or those that are easily accessible receive educational materials more than the multigrade schools in inaccessible remote parts of the district. Additionally the geographical locations of the schools make it difficult for them to be inspected regularly.

7. UNIT COSTS OF MULTIGRADE TEACHING

Because of poor records, it was not possible to ascertain the unit costs of the multigrade system in the pilot schools. The only way the unit costs can be adequately measured is through a proper accounting and distribution system of the educational resources expended all the way from the Ministry's Headquarters, through the Region, the District Offices and finally the schools.

SUMMARY

The conclusion emanating from the study is that multigrade teaching in Zambian rural schools is a cost-effective mode through which primary education could be delivered to marginal communities in the remotest parts of the country. In all the four schools, multigrade teaching has minimised the costs of education to the family and the individual child. The costs that have been brought to a minimum are both direct and indirect. On the part of the individual child, multigrade teaching has minimised the costs in time spent on travelling to school especially for upper primary level education for which some pupils used to travel more than seventy kilometres. Multigrade teaching has minimised the distance between upper primary level education and the child. By so doing, it has eradicated the isolation between the family and the school child especially in cases where the latter had to spend a week (or a term) in the boarding.

Weekly (or termly) boarding had its own costs because of the burden of having to fend for oneself while attending to educational responsibilities. Such hardships of having to look after oneself usually came much earlier in the child's life. Very few children could ever endure such hardships.

On the part of the parents (or families) multigrade teaching has minimised the costs of feeding their children while in weekly boarding schools. Weekly boarding was costly because families had to share the meagre harvests between the school (to feed the child) and the home (for the rest of the family). Instead of having to split the little that is harvested, families are now able to retain all the food that is obtained in order to feed everybody at home.

On the other hand, the cost that was incurred through the loss of the labour of those children that went for weekly boarding has now been eliminated. All able bodied members of the family are now able to contribute their part to the family economic activities. Additionally, family unit is now being maintained because all children in these areas are currently staying with their families.

These direct and indirect costs to the communities, served by the four multigrade pilot schools were real both socially and economically. Such costs were in fact significant and powerful enough to discourage children from going to school altogether. On the other hand, the costs were major obstacles that eliminated most children in these remote areas from completing full primary education.

The experiences in multigrade pilot schools so far indicate that the system has significantly contributed to the solution of these problems. Children are now able to enter school and complete a full primary education in areas where multigrade has been introduced. This is a contribution to the reduction in the attrition levels from Grade four to five. Because of these positive experiences, the Ministry of General Education in Zambia has decided to introduce more multigrade schools in the various parts of the country. There are 200 such schools in operation throughout the country. The aim of the Zambian Government is to use the multigrade system as a method of extending the seven years of primary education to children in the remote but sparsely populated areas. Some of the policy measures that are currently being considered in order to make this system work are:

i) introduction of special allowances for teachers in multigrade schools;

ii) In-service teacher training programmes;

iii) incorporation of the multigrade teaching approach in the teacher training curricula;

iv) procurement and distribution of education materials to these schools;

v) creation of a post of co-ordinator of multigrade system in the inspectorate;

vi) periodic evaluation of the development of the multigrade schools.

NOTES

1. For discussions of these issues see: Foster Philip. J. "The Educational Policies of Post Colonial States,2 in Education and Development pp 3030. Edited by L. A Anderson and D. Windham. (Lexington: Lexington Books, 1982). World Bank, Education in sub-Saharan Africa: Policies for Adjustment, Revitalization and Expansion. A World Bank Policy Paper. (Washington D.C. The World bank, 1988). Postlethwaite, T.N. "Success and Failure in School in Comparative Education. Edited by Philip G., Altbach, Robert F. Arnove and Gail P. Kelly (New York: Mac Millan Publishing Co. 1982). Anderson C.A. "Social Selection in Education and Economic Development: A Research Report prepared for the Education Department of the World Bank (Washington D.C.: tHE wORLD bANK, 1983).

2. These concepts are discussed in detail in Pscharopoulos G. and Woodhall M. Education for Development: An Analysis of investment choices. (New York: Oxford University press, 1985).

3. The thrust of these measures in higher education is for the beneficiaries of this level of education to make a contribution to their education see: Republic of Zambia, Ministry of Higher Education, Science and Technology, New Policy Measures for the Financing of Higher Education. (Lusaka: Educational Services Centre, April 1989.) For a general discussion of cost recovery measures in education see" Woodhall M. Lending for Learning: Designing a Student Loan Programme for Developing Countries. (London Commonwealth Secretariate 1987) Bray, M and Asare M New Resources for Education: Community management and Financing of Schools in Less Developed Countries. (London Commonwealth Secretariate, 1986).

4. Lungwangwa G. "Multigrade Schools in Zambian Primary Education" A Report on the Pilot Schools in Mkushi District". (Lusaka" School of Education, University of Zambia, 1989) is the major report of the study.

5. Republic of Zambia, Ministry of Education. Educational Reforms Proposals and Recommendations. (Lusaka: Government Printer 1977) Kelly, M.J. Nkwanga, E.B. Kaluba, L.H. Achola, P.P.W and Nilson K. "The Provision of Education for All" Towards the Implementation of Zambia's Educational Reforms Under Demographic and Economic Constraints 1986-2000". (Lusaka: School of Education, University of Zambia, 1986).

6. Multigrade teaching is practiced in certain Western countries like Australia and Sweden. However, little literature was available to the author on this subject. For an exploratory discussion of the concept of multigrade teaching see: Bray M. Are Small Schools the Answer? Cost-Effectiveness Strategies for Rural School provision. (London: Commonwealth Secretariat, 1987) UNESCO. Education of Disadvantaged Groups and Multiple Class Teaching: Studies and Innovative Approaches. (Bangkok UNESCO, 1981 and 1982). Marklund, S. Providing Full Primary Education in Small Schools: Alternative Arrangements (Stockholm: Institute of International Education, 1983)

7. Foster P.J. Opcit p.7 illustrate this point very succinctly in the following remarks. "The processes of Socio-Economic change that began in the colonial era had their educational analogues. The diffusion of schooling in most colonies was closely associated with the level of monetization of local economics and the development of towns and transport networks. There was a definite ecology to educational diffusion, and internal differentials in levels of economic development were paralleled by massive inequalities in the provision of education. Frequently, colonial regimes tended to favor particular ethnic or social minorities at the expense of others....."

8. Republic of Zambia, Ministry of General Education Youth and Sport. "Basic Education for All in Zambia: Past Experiences and Future Strategies to Attain Quality Education for All". A Country paper from the Republic of Zambia presented at a Regional Consultative Conference on Education for All for Eastern and Southern African States, (Nairobi: 20th-24th November, 1989).

9. Lungwangwa G. Opcit p.9

10. This is a very crucial point because currently 97% of the budget for the primary education sector is for payment of teachers' salaries. Resources for expansion at this level are non-existent. Kelly M.J. "The Financing of Education in Zambia 1970-1986" A paper presented to the Department of Education Seminar (Lusaka: School of Education, University of Zambia, 16th June, 1988).

11. Economists of Education like Cohn might accept that such difficulties constitute real costs to education whose willingness to accept them on the part of the individual have to be weighed against tangible benefits. See: Cohn, E. The Economics of Education (Cambridge, Massachusetts" Ballinger Publishing Company, 1979, pp. 107-135)

12. This enthusiasm seem to confirm the assertions of Social Scientists that subscribed to modernisation interpretations of development. Namely that one effect that schools have in traditional societies is their modernising effect which arouses the community's optimism about the opportunities that these institutions bring along. See: Armer M. and Youtz R. "Formal Education and Individual Modernity in an African Society", American Journal of Sociology, 76, 4 (1971); pp. 604-626. Holsinger, D.B. "The Elementary School as Moderniser: A Brazilian Study," International Journal of Comparative Sociology, xiv, 3-4 (September-December, 1973): 24-46. Harbison F.H. and Myers C.A. Education, Manpower and Economic Growth. (New York: McGraw-Hill, 1964).

13. Zambia follows a system of selecting pupils into Grade 8 on the basis of their performance on the national selection examination written at the end of Grade 7. Currently only 20% of the Grade 7 leavers have access to Grade 8.

14. This is the weakness in the teacher education curriculum which regards these subjects to be exclusively for female teachers.